

### **REMARKS/ARGUMENTS**

Claims 1 and 2 have been amended to clarify that one primer comprises the nucleotide sequence of SEQ ID: 55 and the other primer comprises the nucleotide sequence of SEQ ID: 56. Claims 3, 4 and 16 have been amended to clarify that the claimed polynucleotide comprises the entire sequence of SEQ ID NO: X. Claim 5 has been amended to identify particular sequences and to more clearly define how a mycobacterial species is identified. Claims 6 and 7 have been cancelled. Support for these amendments is found throughout the application as originally filed. The specification has been amended by correcting the cross reference to related applications and correcting the numerous typographical errors identified by the Office. Figure 1 has been amended to include the sequence identifier and to correct a typographical error. No new matter has been added.

#### **I. Drawings**

The Office has objected to Figure 1 for containing sequences without the required sequence identifiers. Accordingly, Figure 1 has been amended to include the sequence identifiers and to correct a typographical error. Specifically, HSPF3 has been identified as SEQ ID NO: 55 and HSP4 has been corrected to HSPR4 and identified as SEQ ID NO: 56. A replacement sheet is attached at the end of this response. Applicant requests withdrawal of this objection.

#### **II. Claim Objections**

The Office has objected to claim 10 for not using italics uniformly. Accordingly, claim 10 has been amended by reciting *Mycobacterium tuberculosis*, *Mycobacteria* and *Mycobacterium tuberculosis* in italics. Applicant requests withdrawal of this objection.

#### **III. Rejections under 35 U.S.C. §112**

Claims 1-2 and 8-15 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Office asserts that it is unclear if (1) the gene fragment comprises the sequences recited, (2) each primer comprises both sequences, (3) one primer comprises SEQ ID NO: 55 and the other comprises SEQ ID NO: 56, or (4) if the primers, due to the "as shown in" language, consist of the entire sequence of SEQ ID NO: X or a subsequence thereof. Accordingly, independent claims 1 and 2 have been amended to clarify that one primer

comprises the nucleotide sequence of SEQ ID NO: 55 and the other primer comprises the nucleotide sequence of SEQ ID NO: 56. Additionally, claims 1 and 2 have been amended by deleting the phrase "as shown in" to further clarify that the nucleotide sequence comprises the entire sequence of SEQ ID NO: X.

In view of the current amendments to claims 1 and 2, Applicants submit that this rejection has been overcome. Accordingly, Applicants request withdraw of the rejection of these independent claims and any claims dependent thereon.

Claims 3, 4 and 7 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite due to the phrase "as shown in." Specifically, the Office contends that it is unclear if the claimed polynucleotide consists of the entire sequence of SEQ ID No: X or a subsequence thereof. Accordingly, claims 3 and 4 have been amended by deleting the phrase "as shown in" to clarify that the claimed polynucleotide comprises the entire sequence of SEQ ID NO: X. Claim 7 has been cancelled.

In view of the current claim amendments, Applicants submit that this rejection has been overcome. Accordingly, Applicants request withdraw of this rejection.

Claims 5-7 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Office argues that these claims are indefinite because (1) they do not identifying any particular sequences, (2) it is unclear what the analyzing procedure is and (3) it is unclear how one identifies a particular species of mycobacteria using step -3- because the step does not require any specific species. Claims 6 and 7 have been cancelled.

Claim 5 has been amended to recite that one of the primers comprises the nucleotide sequence of SEQ ID NO: 55 and the other primer comprises the nucleotide sequence of SEQ ID NO: 56. Additionally, step (3) has been amended to clarify how the identity of a mycobacterial species is obtained. In particular, step (3) has been amended to recite the step of multi-aligning the nucleotide sequence of the amplified hsp 65 gene fragment analyzed in step (2), a polynucleotide set comprising at least one hsp 65 gene fragment selected from the group of polynucleotides consisting of SEQ ID NO: 1 to SEQ ID NO: 54 and polynucleotides complementary thereto, to infer a phylogenetic tree.

Regarding step (2) of claim 5, Applicants respectfully submit that it is well known in the art that the analysis of a nucleotide sequence may be performed by several different methods using various apparatuses for analyzing a nucleotide sequence. One of any number of suitable methods for analyzing a nucleotide sequence is provided in Example 4-1. However, since various methods of analyzing nucleotide sequences are well known in the art, the recitation of “analyzing a nucleotide sequence...” would be readily understood by one skilled in the art. Accordingly, upon reading the phrase “analyzing a nucleotide sequence” one skilled in the art would readily recall or contemplate various suitable methods. Simply stated, one skilled in the art knows how to analyze nucleotide sequences. Therefore, step (2) is not unclear to one skilled in the art.

In view of the current amendments to claims 5 and the foregoing remarks, Applicants submit that this rejection has been overcome. Accordingly, Applicants request withdraw of this rejection.

Claim 6 also stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite due to the phrase “as shown in.” Claim 6 has been cancelled.

Claim 16 stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite due to the phrase “as shown in.” Specifically, the Office contends that it is unclear if the claimed polynucleotide consists of the entire sequence of SEQ ID No: X or a subsequence thereof. Accordingly, claim 16 have been amended by deleting the phrase “as shown in” to clarify that the claimed polynucleotide comprises the entire sequence of SEQ ID NO: X.

In view of the current claim amendments, Applicants submit that this rejection has been overcome. Accordingly, Applicants request withdraw of this rejection.

#### **IV. Conclusion**

In view of the amendments and remarks made above, Applicants submit that the pending claims are in condition for allowance. Applicants respectfully request that the claims be allowed to issue. If the Examiner wishes to discuss the application or the comments herein, the Examiner is urged to contact the undersigned.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper.

Application No.: 10/500,586  
Amendment Dated April 18, 2007  
Reply to Office Action of January 18, 2007

However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "John E. Johnson, III", with a stylized flourish at the end.

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LEGAL02/30310860v1

**ELECTRONICALLY FILED USING THE EFS-WEB ELECTRONIC FILING SYSTEM OF THE UNITED STATES PATENT & TRADEMARK OFFICE ON APRIL 18, 2007.**